

WHAT IS CLAIMED IS:

1. A honing method grinding an inner surface of a cylinder of a workpiece carried on a machining line by rotating a honing head having hones while axially moving the honing head, comprising the steps of:
  - 5      grinding the inner surface of the cylinder of the workpiece on a coarse honing section,
    - leaving the cylinder on an idling section for a predetermined time without inserting the honing head into the cylinder, and
    - grinding the inner surface of the cylinder of the workpiece on a
  - 10     finishing honing section,
    - wherein the honing head on the coarse honing section is rotated in a reverse direction to a rotational direction of the honing head on the finishing honing section, thereby grinding the inner surface of the cylinder of the workpiece.
- 15     2. The honing method according to claim 1, wherein a coolant is supplied to the workpiece on the idling section.
- 20     3. The honing method according to claim 2, wherein the coolant is set equal in temperature to coolants used on the coarse honing section and the finishing honing section.
- 25     4. The honing method according to claim 1, wherein time for which the workpiece is left as it is on the idling section is at least 30 seconds.
5. The honing method according to claim 2, wherein time for which the workpiece is left as it is on the idling section is at least 30 seconds.

6. The honing method according to claim 3, wherein time for which the workpiece is left as it is on the idling section is at least 30 seconds.
- 5 7. A honing apparatus grinding an inner surface of a cylinder of a workpiece that is carried on a machining line by rotating a honing head having hones while axially moving the honing head, the honing apparatus comprising:

  - a section of a coarse honing step and a section of a finishing honing step provided on the machining line; and
  - a section of an idling step for leaving the workpiece, which has been subjected to the coarse honing step, as it is for a predetermined time without inserting the honing head into the cylinder,

    - wherein the idling section is provided between the coarse honing step section and the finishing honing step section; and
    - wherein a rotational direction of the honing head in the finishing honing step is reverse to a rotational direction of the honing head in the coarse honing step.
- 20 8. A honing apparatus for grinding an inner surface of a cylinder of a workpiece carried on a machining line by rotating a honing head having hones while axially moving the honing head, the honing apparatus comprising:

  - a coarse honing means for grinding the inner surface of the cylinder of the workpiece on the machining line;
  - a finishing honing means for grinding the inner surface of the cylinder of the workpiece on the machining line; and

- an idling means on the machining line for leaving the workpiece which has been subjected to the coarse honing step, as it is for a predetermined time without inserting the honing head into the cylinder,
      - wherein the idling means is provided between the coarse honing means and the finishing means; and
      - wherein a rotational direction of the honing head in the finishing honing means is reverse to a rotational direction of the honing head in the coarse honing means.

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